

VIA FAX AND MAIL (including 5 pages in total)

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PCT-Patent Application No.: PCT/IB02/02492
Nokia Corporation et al.

Our ref: WO 34762

(Frist: --)

Reference is made to the Written Opinion dated February 16, 2004 and the International Preliminary Examining Authority's facsimile letter of May 14, 2004.

Enclosed herewith a complete set of claims 1 to 25 is filed as requested.

Jürgen Faller
Patentanwalt
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Enclosure:

- New set of claims 1 to 22

Dresdner Bank, München	Kto. 3939 844	BLZ 700 800 00	IBAN-Nr.: DE47 7008 0000 0393 9844 00	BIC : DRES DE FF 700
Deutsche Bank, München	Kto. 2861 060	BLZ 700 700 24	IBAN-Nr.: DE14 7007 0024 0286 1060 00	BIC : DEUT DE DB MUC
Postbank, München	Kto. 6704 3804	BLZ 700 100 80	IBAN-Nr.: DE04 7001 0080 0067 0438 04	BIC : PBNK DE FF
Mizuho Corp. Bank, Düsseldorf	Kto. 810 423 3007	BLZ 300 207 00	IBAN-Nr.: DE75 3002 0700 8104 2330 07	BIC : MHCB DE DD
UFJ Bank Limited, Düsseldorf	Kto. 500 047	BLZ 301 307 00	IBAN-Nr.: DE09 3013 0700 0000 5000 47	BIC : SANW DE DX
Steuernr.: 9 148/641/28007	Ust-ID/VAT: DE 1307 480 35			FA216

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New claims 1 to 25

- 10 1. A method for balancing the load of resources in a packet switched connection within a communication system, said system comprising processing units (11; 12) for performing communication, at least one load balancing unit (12; 22) for distributing the load to said processing units (11; 12), and a data storage (14; 24), said method comprising the steps of:
obtaining a current connection state as well as a current load state of said processing units from said data storage (14; 24);
20 selecting by said load balancing unit (12; 22) a processing unit on a per packet basis irrespective of a specific connection to which a respective packet belongs;
maintaining information about the load state of each processing unit (11; 21) so that said selecting step is
25 performed by selecting a processing unit to serve and process a respective packet based on the load state.
2. A method according to claim 1, wherein said data storage is accessed to by said load balancing unit.
- 30 3. A method according to claim 1, wherein said data storage is accessed to by said processing units.
4. A method according to claim 1, wherein said information about the load state is maintained as a Boolean state.

5. A method according to claim 1, wherein a processing unit is selected in a round-robin fashion.
6. A method according to claim 1, wherein a supported
5 service profile for each processing unit is maintained.
7. A method according to claim 6, wherein said supported service profile is used as additional selection criteria.
- 10 8. A method according to claim 1, wherein said load balancing unit obtains a load state from each processing unit upon a hardware based mechanism.
9. A method according to claim 1, wherein said load
15 balancing unit obtains a load state from each processing unit upon a packet based mechanism.
- 10. A method according to claim 9, wherein a load state of a processing unit is inserted into a packet processed by
20 said unit.
11. A method according to claim 9, wherein a packet returned by a processing unit is interpreted as a flag for a free resource.
25
12. A method according to claim 1, wherein excess traffic is redirected to another load balancing unit, said excess traffic being defined upon the number of active processing units.
- 30 13. A device unit for serving and processing packets of a communication connection, comprising:
means adapted to inform a load state of said device to a balancing unit; and

means adapted to obtain a state of said communication connection,

wherein said device unit is adapted to serve and process packets of plural connections.

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14. A device unit according to claim 13, wherein said obtaining means is adapted to retrieve said communication connection state from a data storage.

10 15. A device unit according to claim 13, wherein said obtaining means is adapted to retrieve said communication connection state from a packet being under processing.

15 16. A device unit for balancing a load of each of multiple processing units performing a packet switched communication connection, comprising:

means for maintaining a load state of each of said processing units; and

20 means adapted to select a processing unit on the basis of a respective load state on a per packet basis irrespective of a specific connection to which a respective packet belongs.

25 17. A device according to claim 16, wherein a load state of a processing unit is contained in a table.

18. A device according to claim 16, wherein a load state of a processing unit is expressed as a Boolean value.

30 19. A device according to claim 16, wherein a load state of a processing unit is expressed as value which corresponds to the percentage of load.

35 20. A device according to claim 16, wherein said selecting means is adapted such that a processing unit is selected

also on the basis of a parameter indicating the service profile supported by a respective processing unit.

21. A device according to claim 20, wherein said parameter
5 is contained in a table.

22. A device according to claim 16, further comprising
means adapted to insert a communication connection
state into a packet to be routed.
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23. A device according to claim 16, wherein the processing
units are comprised of multicore digital signal processing
means having a shared data storage for all cores, whereby
said device comprises a first level of load balancing for
15 selecting a digital signal processing means and a second
level of load balancing for selecting a single core.

24. A device according to claim 16, further comprising
means for redirecting excess traffic to another device
20 according to claim 16, wherein said excess traffic is
defined upon the number of active processing units.

25. A system adapted to perform a method according to any
of the claims 1 to 12.
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